

1 BILL NO. S-90-06- 49

2 SPECIAL ORDINANCE NO. S- 170-90

3 AN ORDINANCE approving the awarding of
4 Reference #943 by the City of Fort
5 Wayne, Indiana, by and through its
6 Department of Purchasing and CUES, INC.
7 for the Water Pollution Control
8 Maintenance Department.

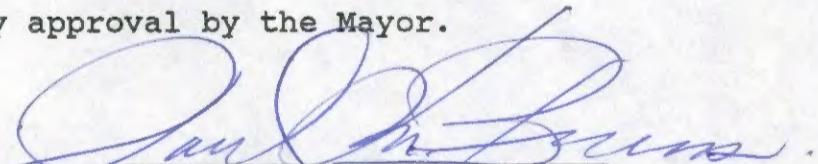
9 NOW, THEREFORE, BE IT ORDAINED BY THE COMMON COUNCIL OF
10 THE CITY OF FORT WAYNE, INDIANA;

11 SECTION 1. That Reference #943 between the City of
12 Fort Wayne, by and through its Department of Purchasing and
13 CUES, INC. for the Water Pollution Control Maintenance
14 Department, respectfully for:

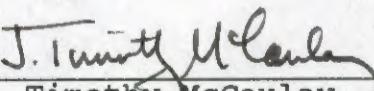
15 the purchase for retrofit multi-
16 conductor black & white TV inspection
17 system to single conductor color system
18 for the Water Pollution Control
19 Maintenance Department;

20 involving a total cost of Ninety-Nine Thousand Nine Hundred
21 and no/100 Dollars (\$99,900.00), all as more particularly
22 set forth in said Reference #943 which is on file in the
23 Office of the Department of Purchasing, and is by reference
24 incorporated herein, made a part hereof, and is hereby in
25 all things ratified, confirmed and approved.

26 SECTION 2. That this Ordinance shall be in full force
27 and effect from and after its passage and any and all
28 necessary approval by the Mayor.

29 
30 Councilmember

31 APPROVED AS TO FORM
32 AND LEGALITY

33 
34 J. Timothy McCaulay, City Attorney

REF. NO.: 943
DEPT.: WPC MAINTENANCE
DATE: 6/19/90
ITEM/SERV.: RETRO-FIT

PURCHASING INFORMATION

ADVERTISED BID: YES
DATES ADVERTISED: 4/9 & 4/16
OPENING DATE: 5/3/90

WRITTEN QUOTE:

DUE DATE:

VERBAL QUOTE:

SINGLE SOURCE:

NO. OF VENDORS NOTIFIED: 11
NO. OF VENDORS RECEIVING BID: 3
NO. OF VENDORS RETURNING BID: 2
NO. OF VENDORS DISQUALIFIED: 0
NO. OF VENDORS NOT RESPONDING: 9

DATE SENT TO DEPT FOR RECOMM.: 5/3/90

DATE RECOMMENDATION REC'D IN PURCH: 6/14/90

COUNCIL INFORMATION DATES SENT EXTENSION DATES

DATE INFO SENT TO LAW DEPT.: 6/19/90

INTRODUCTION DATE: 6/26/90

DISCUSSION DATE: 7/3/90

PASSAGE DATE: 7/10/90

ORDINANCE NO.:

BID REFERENCE NO. 943
WPC MAINTENANCE

DESCRIPTION	CUES, INC.	FLEX ROD
RETRO-FIT	\$104,900.00	N/B
TRADE-IN	\$5,000.00	N/B
TOTAL	\$99,900.00	\$0.00

FRONT PAGE/INVITATION TO BID
DEPARTMENT OF PURCHASING
CITY OF FORT WAYNE, ALLEN COUNTY, INDIANA
ONE MAIN STREET - ROOM 350
PHONE 219-427-1101

BID OPENING DATE 5-3-90 @ 11:00 AM BID REFERENCE # 943

SEALED BIDS SHOULD BE DELIVERED TO DEPARTMENT OF PURCHASING, ROOM 350, CITY-COUNTY BUILDING UP TO 11:00 A.M. ON OR BEFORE OPENING DATE.

SEALED BIDS WILL BE OPENED PUBLICLY AT 11:01 A.M. IN THE BOARD OF WORKS & SAFETY CONFERENCE ROOM ON THE THIRD FLOOR OF THE CITY-COUNTY BUILDING. "NO LATE BIDS WILL BE ACCEPTED AFTER 11:00 A.M. FOR ANY REASON WHATSOEVER".

THIS INVITATION FOR BID IS FOR RETRO-FIT OF 1977 CUES TV/SEAL WITH MULTI-CONDUCTOR BLACK & WHITE TV SYSTEM & TRI-LINE SEALING SYSTEM TO A SINGLE CONDUCTOR COLOR TV SYSTEM WITH QUAD-LINE SEALING SYSTEM PER SPECIFICATIONS. SOME REFURBISHING TO BE INCLUDED.
AND REQUESTED BY WATER POLLUTION CONTROL MAINTENANCE

THIS BID REQUIRES A XXXXXX 5% BID BOND, CERTIFIED OR CASHIER'S CHECK OF ALL BIDDERS.

THIS BID REQUIRES A XXXXXX 100% PERFORMANCE BOND OF SUCCESSFUL BIDDER(S).

PROMPT PAYMENT DISCOUNTS WILL BE ALLOWED AS FOLLOWS: 0 % IF PAID WITHIN DAYS.

THIS INVITATION IS ISSUED TO ESTABLISH A CONTRACT TO SUPPLY THE CITY OF FORT WAYNE WITH A COMMODITY OR SERVICE IN ACCORDANCE WITH ACCOMPANYING SPECIFICATIONS.

THE EXECUTION HEREOF BY THE BIDDER IS ACCEPTANCE OF ALL TERMS AND CONDITIONS HEREIN AND IN THAT REGARD THE BIDDER AGREES TO BE BOUND BY SAME AND BE BOUND TO THE AMOUNT OF HIS/HER BID FOR A PERIOD OF NINETY (90) DAYS.

FIRM NAME CUES, INC.

STREET ADDRESS 3501 VINELAND ROAD

CITY ORLANDO, FL 32811 PHONE #1-800-327-7791

BY Thomas E Haas

REPRESENTATIVE SIGNATURE

THOMAS E. HAAS, SALES MANAGER



CUES, Inc.

3501 Vineland Road
Orlando, Florida 32811-6484
Telephone 407/849-0190
TWX 810-850-4139
FAX 407-425-1569

May 1, 1990

Ms. Gloria J. Goeglein
Purchasing Director
City of Fort Wayne
One Main Street - Room 350
Fort Wayne, IN 46802

Dear Ms. Goeglein:

Enclosed is our Bid for One (1) Retro-Fit of 1977 CUES TV/SEAL with Multi Conductor Black & White TV System & Tri-Line Sealing System to a Single Conductor Color TV System with Quad-Line Sealing System, Bid Number 943. Our bid meets your specifications without exception.

CUES is the largest supplier of TV and TV/Seal equipment in the country with over 2,000 systems in operation. More municipalities and contractors use the CUES' systems than all other manufactured brands combined. Proven equipment performance and service have contributed greatly to this widespread acceptance of our systems.

We appreciate the opportunity to bid on your sewer inspection equipment. Don Feder, our Regional Sales Manager, will contact you shortly to review the bid results and answer any questions you may have. Please don't hesitate to contact me directly at 1-800-327-7791 if I can supply you with any additional information.

very truly yours,

A handwritten signature in cursive script, appearing to read "Thomas E. Haas".

Thomas E. Haas
Sales Manager

TEH/pr

[teh.ftwayne]

CITY OF FORT WAYNE, IN

CLARIFICATIONS

1. Our air conditioner will be an 11,000 BTU Coleman with heat strip, and is in accordance with Coleman specifications attached to the bid document.
2. Shelves/brackets/doors and straps are supplied for normal equipment. Larger size packers along with chemical are not stowed and are loaded on the truck only as needed.
3. Standard Block Diagrams on the major electronic components will be furnished or as they are available to CUES from other suppliers such as Sony or Panasonic. Some diagrams are proprietary and will require a signed statement from the City that they will be used internally only and not be given, loaned, or sold to any other individual or company.
4. The Camcorder specified is no longer manufactured by Sony and an equivalent (water proof body) is not manufactured by other suppliers. We have offered as an alternative, (suggested by the Camcorder Supplier), a special bag which will protect the camera in up to 30' of water.

ACORD CERTIFICATE OF INSURANCE

ISSUE DATE (MM/DD/YY)

04/26/90

PRODUCER

ROANOKE INSURANCE AGENCY
21 CUSTOM HOUSE STREET
BOSTON, MA 02110

(617)951-1411

CODE

SUB-CODE

INSURED

CUES, INC.
3501 S. VINELAND ROAD

ORLANDO, FL 32811

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERNS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW.

COMPANIES AFFORDING COVERAGE

COMPANY LETTER	A	COMMERCE & INDUSTRY
COMPANY LETTER	B	NATIONAL UNION
COMPANY LETTER	C	FIRST ALLIANCE INS
COMPANY LETTER	D	
COMPANY LETTER	E	

COVERAGES

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED, NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

CO LTR	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YY)	POLICY EXPIRATION DATE (MM/DD/YY)	ALL LIMITS IN THOUSANDS	
					GENERAL AGGREGATE	\$ 2000
A	GENERAL LIABILITY	GL 7601756	03/31/90	03/31/91	PRODUCTS-COMP/OPS AGGREGATE	\$ 1000
	X COMMERCIAL GENERAL LIABILITY				PERSONAL & ADVERTISING INJURY	\$ 1000
	X CLAIMS MADE X OCCUR				EACH OCCURRENCE	\$ 1000
	OWNER'S & CONTRACTOR'S PROT.				FIRE DAMAGE (Any one fire)	\$ 50
					MEDICAL EXPENSE (Any one person)	\$ 5
A	AUTOMOBILE LIABILITY	CA 6242353	03/31/90	03/31/91	COMBINED SINGLE LIMIT	\$ 1000
	X ANY AUTO				BODILY INJURY (Per person)	\$
	X ALL OWNED AUTOS				BODILY INJURY (Per accident)	\$
	X SCHEDULED AUTOS				PROPERTY DAMAGE	\$
	X HIRED AUTOS					
	X NON-OWNED AUTOS					
B	GARAGE LIABILITY					
	EXCESS LIABILITY	BE 3080829	03/31/90	03/31/91	EACH OCCURRENCE \$ 10000	AGGREGATE \$ 10000
	X OTHER THAN UMBRELLA FORM					
C	WORKER'S COMPENSATION	TO BE DETERMINED	03/31/90	03/31/91	STATUTORY	
	AND				\$ 100	(EACH ACCIDENT)
	EMPLOYERS' LIABILITY				\$ 500	(DISEASE-POLICY LIMIT)
	OTHER				\$ 100	(DISEASE-EACH EMPLOYEE)

DESCRIPTION OF OPERATIONS/LOCATIONS/VEHICLES/RESTRICTIONS/SPECIAL ITEMS

CERTIFICATE HOLDER

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, THE ISSUING COMPANY WILL ENDEAVOR TO MAIL 30 DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED TO THE LEFT, BUT FAILURE TO MAIL SUCH NOTICE SHALL IMPOSE NO OBLIGATION OR LIABILITY OF ANY KIND UPON THE COMPANY, ITS AGENTS OR REPRESENTATIVES.

ROANOKE INSURANCE AGENCY INC.

BY



1930 Thoreau Drive, Suite 101, Schaumburg, Illinois 60173
312/490-1850, Fax: 312/885-8710, Telex: 62603950

April 19, 1990

City of Fort Wayne
Fort Wayne, Indiana

Re: Cues, Inc.
3501 Vineland Road, Orlando, Florida 32811-6484
Bid No.: 943
Bid Bond No. S-200-4653
Obligee: City of Fort Wayne, IN.

Gentlemen:

It is understood and agreed that Washington International Insurance Company will issue a 100% Performance and Payment Bond if Cues, Inc. is the successful bidder in connection with the above referenced Bid Bond.

Very Truly Yours,

WASHINGTON INTERNATIONAL INSURANCE COMPANY

Gerard M. Dooner

Gerard M. Dooner
Attorney-In-Fact

GMD/jms

BID OR PROPOSAL BOND

KNOW ALL MEN BY THESE PRESENTS:

That we, CUES, INC., 3501 VINELAND ROAD, ORLANDO, FLORIDA 32811-6484

(hereinafter called the principal), as principal, and WASHINGTON INTERNATIONAL INSURANCE CO., a corporation organized and doing business under and by virtue of the laws of the State of ARIZONA, and duly licensed for the purpose of making, guaranteeing or becoming sole surety upon bonds or undertakings required or authorized by the laws of the State of INDIANA as Surety, are held and firmly bound unto CITY OF FORT WAYNE, IN. (hereinafter called the Obligee)

in the just and full sum of FIVE THOUSAND AND 00/100

Dollars (\$ 5,000.00) lawful money of the United States of America, for the payment of which, well and truly to be made, we hereby bind ourselves and our and each of our successors and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH THAT, WHEREAS, the above bounden principal as aforesaid, is about to hand in and submit to the obligee a bid or proposal for the

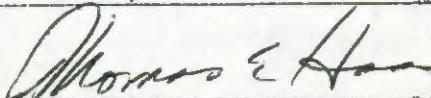
RETRO - FIT OF 1977 CUES TV/SEAL WITH MULTI CONDUCTOR BLACK & WHITE TV SYSTEM AND TRI-LINE SEALING SYSTEM TO A SINGLE CONDUCTOR COLOR TV SYSTEM WITH QUAD LINE SEALING SYSTEM.

In accordance with the plans and specifications filed in the office of the obligee and under the notice inviting proposals therefor.

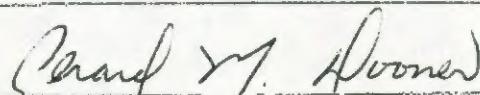
NOW, THEREFORE, if the bid or proposal of said principal shall be accepted, and the contract for such work be awarded to the principal thereupon by the said obligee, and said principal shall enter into a contract and bond for the completion of said work as required by law, then this obligation to be null and void, otherwise to be and remain in full force and effect.

IN WITNESS WHEREOF, said Principal and said Surety have caused these presents to be duly signed and sealed this 19TH
day of APRIL . 19 90

CUES, INC.

By 
THOMAS E. HAAS, SALES MANAGER

WASHINGTON INTERNATIONAL INSURANCE COMPANY

By 
GERARD M. DOONER
060-38-8542

Attorney-in-Fact

WASHINGTON INTERNATIONAL INSURANCE COMPANY

POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS: That the Washington International Insurance Company, a corporation organized and existing under the laws of the State of Arizona, and having its principal office in the Village of Schaumburg, Illinois, does hereby constitute and appoint

* * * * *

Gerard M. Dooner, Theresa Jones,
and Ruth Widman

* * * * *

its true and lawful attorney(s)-in-fact to execute, seal and deliver for and on its behalf as surety, any and all bonds and undertakings, recognizances, contracts of indemnity and other writings obligatory in the nature thereof, which are or may be allowed, required, or permitted by law, statute, rule, regulation, contract or otherwise, and the execution of such instrument(s) in pursuance of these presents, shall be as binding upon the said Washington International Insurance Company as fully and amply, to all intents and purposes, as if the same has been duly executed and acknowledged by its President at its principal office.

This Power of Attorney shall be limited in amount to \$100,000.00 for any single obligation.

This Power of Attorney is issued pursuant to authority granted by the resolutions of the Board of Directors adopted February 4, 1976, and January 17, 1984, which read, in part, as follows:

1. The President may appoint Attorneys-in-Fact, and authorize them to execute on behalf of the Company, and attach the Seal of the Company thereto, bonds, and undertakings, to appoint Special Attorneys-in-Fact, who are hereby authorized to certify to copies of any power-of-attorney issued in pursuant to this section and/or any of the By-Laws of the Company, and to remove, at any time, any such Attorney-in-Fact or Special Attorney-in-Fact and revoke the authority given him."

2. The signatures of the Chairman of the Board, the President, Vice President, Assistant Secretary, Treasurer and Secretary, and the corporate seal of the Company, may be affixed to any Power of Attorney, certificate, bond or undertaking relating thereto, by facsimile. Any such Power of Attorney, certificate bond or undertaking bearing such facsimile signature or facsimile seal affixed in the ordinary course of business shall be valid and binding upon the company.

IN TESTIMONY WHEREOF, the Washington International Insurance Company has caused this instrument to be signed and its corporate seal to be affixed by its authorized officer, this 7th day of May, 1987.

WASHINGTON INTERNATIONAL INSURANCE COMPANY

William D. Sterrett, President

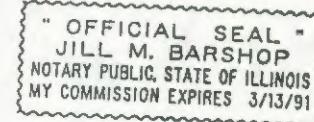
STATE OF ILLINOIS)
) S.S.
COUNTY OF COOK)



On this 7th day of May, 1987, before me came the individual who executed the preceding instrument, to me personally known, and, being by me duly sworn, said that he is the therein described and authorized officer of the Washington International Insurance Company; that the seal affixed to said instrument is the Corporate Seal of said Company.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my Official Seal, the day and year first above written.

Jill M. Barshop, Notary Public
My Commission Expires March 13, 1991



CERTIFICATE

STATE OF ILLINOIS)
COUNTY OF COOK)

I, the undersigned, Assistant Secretary of Washington International Insurance Company, an Arizona Corporation, Do Herby Certify that the foregoing and attached Power of Attorney remains in full force and has not been revoked, and furthermore that Article III, Section 5 of the By-Laws of the Corporation, and the Resolution of the Board of Directors, set forth in the Power of Attorney, are now in force.

Signed and sealed in the County of Cook. Dated the 19th day of April, 1990.

Patricia M. Olsen, Assistant Secretary



6757D & 6759D SERIES 6759-800 SERIES

TSR SERIES DATA SHEET

SPECIFICATIONS By Model Number		6757D Series TSR Rotary		6759D Series TSR Rotary		6759-800 Series TSR RECIPROCAT					
BTU Capacity (nominal)	Cooling	11,000		13,500		13,500					
	Heating			5,600							
Electrical Rating		115V / 60 Hz / 1 Phase									
Cooling Full Load AMP'S At A.R.I. Standard Condition	Compressor	10.4		11		12.7					
	Fan Motor	Low - 2.1	High - 2.8	Low - 2.1	High - 2.8	Low - 2.1	High - 2.8				
	Total	12.5	13.2	13.1	13.8	14.8	15.5				
Heating Equipment Amps ①		16.0									
RUNNING WATTS: (cooling) A.R.I. Standard Condition (80°F. DB / 67°F. WB Indoor, 95°F. DB Outdoor at 115 VAC)		1,420		1,600		1,795					
RUNNING WATTS: (cooling) A.R.I. Maximum Condition (95°F. DB/ 71°F. WB. Indoor, 115° F. DB Outdoor at 103.5 VAC)		1,800		1,930		2,150					
RUNNING WATTS: (heating) ①		1,800									
Compressor Locked Rotoar Amps		56.6		63.5		75.0					
Compressor Ohm Ratings (approx.) C = Common, S = Start, R = Run		(C- S)9 (C- R)1 (S- R)10		(C- S)7 (C- R)1 (S- R)8		(C- S)7-9 (C- R)1-2 (S- R)8-10					
Thermostat Temperature Range		Cooling - 81° (+ or - 5°) Heating - 85° (+ or - 5°)									
Metering Device		Capillary Tube									
Refrigerant Charge		16.25 oz.		17.00 oz.		15.25 oz.					
Evaporator Air Delivery (CFM)		330 CFM - High		150CFM - Low							
Generator Size		See "Generators" Below									
Upper Unit Installed weight (pounds)		91.5 ②		95.0 ②		103.0 ③					

① When equipped with ELECT- A - HEAT feature.

② Using 6759 Series Ceiling Assemblies will increase installed weight 12 to 15 pounds.

GENERATORS

When sizing generators the total electrical power consumption in watts must be determined (Note: Generators should be sized with the electrical STARTING WATTS considered. The wattage listed above are running watts. STARTING WATTS average two (2) times the table listed running watts.

It is recommended to size the generator for the air conditioner at A.R.I. maximum operating conditions (starting watts).

Example : Maximum condition running watts for the 6759D Series air conditioner is 1,930 watts. Multiply 1,930 running watts by 2 gives a requirement of 3,860 starting watts. A twovalve RV generator rated at 4000 watts Max. 3500 watts Run.

Other sizing considerations.

A. A generator sized to the above wattages is only designed for operating the air conditioner, if other appliances will be operated at the same time, their power consumption in watts, must be included into the total power consumption for sizing the generator.

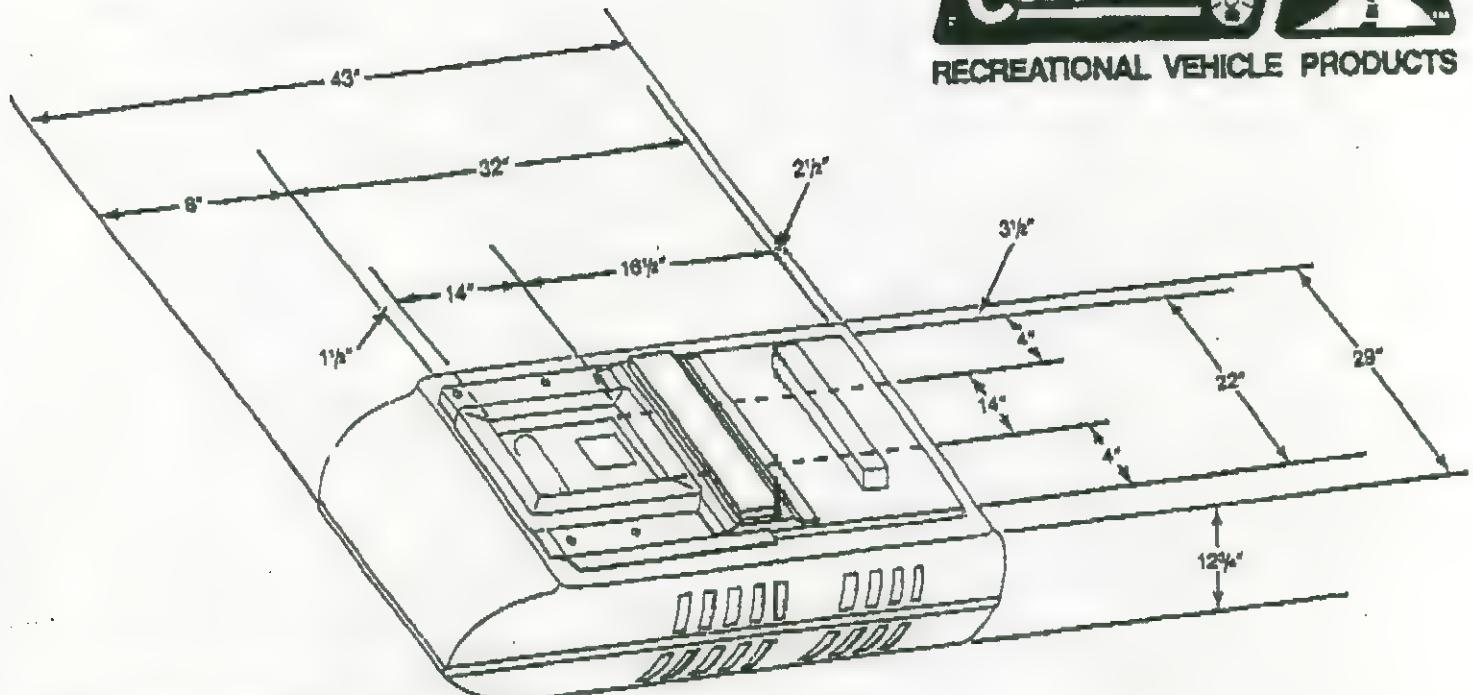
IMPORTANT

In all applications, the roof structure of the vehicle on which the air conditioner is to be installed, Must be capable of supporting a minimum per unit weight of 140 lbs. in transit.

All air conditioners tested and rated in accordance with



RECREATIONAL VEHICLE PRODUCTS

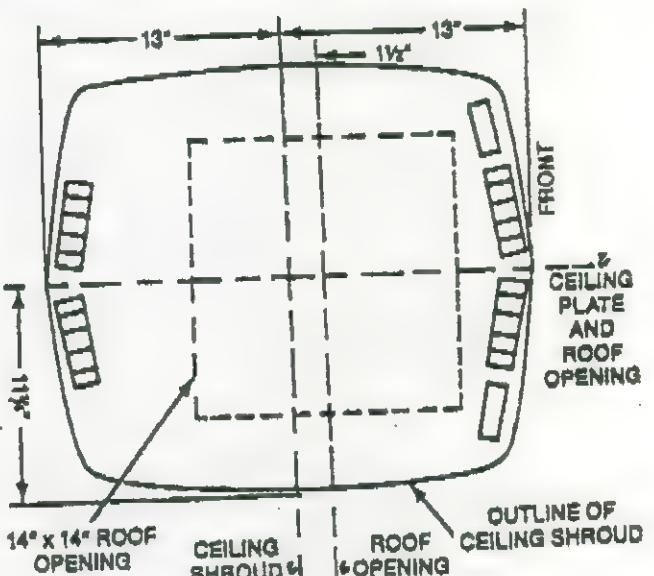


UPPER UNIT DIMENSIONS

CEILING SHROUD DIMENSIONS

QUICK REFRENCE CHART

DIMENSIONS		
EXTERIOR SHROUD	HEIGHT	12 $\frac{3}{4}$ "
	WIDTH	29"
	LENGTH	43"
CEILING SHROUD	DEPTH	3"
	WIDTH	22 $\frac{1}{2}$ "
	LENGTH	26"



ROOF TOP UNIT MODEL NUMBER BREAKDOWN

R.V. PRODUCTS INC.

	<u>SIZE - BTU</u>
57, 67, 77	11,000 BTU
59, 69, 70, 79	13,500 BTU
27	7,100 BTU

- | | |
|-------------|---------------|
| COMPRESSOR | 2 - LT. GRAY |
| 0-TECHUMSEH | DK. GRAY |
| ROTOREX | 3 - GRAY |
| 1-SANYO | 5 - BEIGE |
| | 7 - IVORY |
| ATING | 8 - FR. BEIGE |
| | BRONZE |
| " | 9 - IVORY |
| | BRONZE |

CUES LOANER EQUIPMENT AGREEMENT

- A. Loaner equipment is available to all CUES CUSTOMERS subject to the following conditions:
 - 1. The CUSTOMER must have purchased from CUES the unit for which the loaner equipment is being requested.
 - 2. The LOANER EQUIPMENT is subject to AVAILABILITY. Maximum effort will be made by CUES to maintain an adequate inventory of loaner units. All Loaner equipment will be black and white.
 - 3. Loaner equipment is not available to CUSTOMER equipment on which repair actions have been taken by facilities other than CUES, unless such actions have been previously authorized by the CUES Service Facility.
 - 4. The CUSTOMER must pay all transportation charges on the loaner equipment and insure it against loss for list value unless otherwise mutually agreed between CUES AND THE CUSTOMER. Air freight will be the method of shipment whenever possible.
 - 5. The CUSTOMER is responsible for any loss or damage to the loaner equipment while in his possession and during return transit to CUES. Necessary repairs will be billed at the current rate per hour, plus parts. If damage occurs during return transit, the CUSTOMER must file the necessary claims with the shipping company. CUES will be responsible for freight damage and loss while in transit to the CUSTOMER.
 - 6. Standard Operating Procedure will be for CUES to ship air freight the loaner equipment (if available) based upon the customer's telephone request. It is the CUSTOMER'S RESPONSIBILITY to ship the equipment for which the loaner is requested to CUES by air freight no later than 24 hours after the loaner request is made.
 - 7. Once THE EQUIPMENT IS REPAIRED and returned to the Customer via air freight, IT BECOMES THE CUSTOMER'S RESPONSIBILITY TO RETURN CUES LOANER EQUIPMENT WITHIN (5) FIVE DAYS. IF THE CUSTOMER FAILS TO DO SO, the loaner equipment will be considered rental equipment and billed at the rates listed later.
 - 8. In the event the CUSTOMER'S equipment is defective beyond the point of repair, or, the repair action will exceed 15 days after receipt at the CUES' facility; due to circumstances beyond CUES control, CUES will inform the CUSTOMER so that, if necessary, a new replacement unit can be purchased. Under these circumstances, a LOANER replacement will be available without charge for 15 days after shipment of the LOANER. Beyond 15 days, the LOANER equipment will be considered rental equipment and billed at the rates as set forth below.

9. In the event you as a customer do not meet your obligation in returning either the equipment to be repaired or the CUES loaner equipment per this agreement, you will be determined INELIGIBLE FOR THE CUES LOANER EQUIPMENT.

B. In the event rental on LOANER equipment must be charged, the following rates will apply:

TV Sewer Camera	\$60.00	per day
14" Industrial Monitor	25.00	" "
Power Control Unit	30.00	" "
Data View Unit	40.00	" "
Video Tape Recorder	35.00	" "
Posatrym Panel	20.00	" "
Quick Test Staging Panel	10.00	" "
Power Winch Controller	10.00	" "
Power Reel Controller	15.00	" "
Footage Head Assembly	10.00	" "

(NOTE: Other LOANER Equipment as may become available shall have a daily rental rate based on 1% of the list price per day.)

All prices are FOB the CUES facility. The day of shipment to the CUSTOMER and the day of return of the equipment to the shipping point are included as LOANER use days.

- C. This Agreement shall become effective when signed by an authorized representative of CUES.
- D. This Agreement is not transferrable.
- E. Loaner equipment privileges may be revoked or suspended in the event the CUSTOMER becomes delinquent in financial obligations to CUES, or fails to comply with the provisions of this agreement.
- F. All legal expenses involved in the return of CUES property or collection of funds for rental of equipment will be the responsibility of the CUSTOMER.

CUES, INCORPORATED

CUSTOMER: _____

By: _____

By: _____

Date _____

Date: _____

[guthrie][s]loanagree.mas

CUES, Inc. ("CUES") warrants that all parts, components, and equipment manufactured by CUES shall be free from defects in material and workmanship under normal use and service for which it was intended for a period of twelve (12) months from the date of shipment of materials by CUES to the purchaser. CUES'S obligation under this warranty is limited, at CUE'S option, to replacing or repairing, free of charge, F.O.B. CUE'S service facility, any defective materials. For all warranty claims, the materials must be returned in accordance with CUES Material Return Policy; freight, duties and insurance prepaid to a place designated by CUES.

Major items of equipment such as vehicles, generators, etc., furnished, but not manufactured by CUES, will be covered only under the warranty of the third party manufacturer of such equipment. Expendable parts such as light bulbs, fuses, connectors, etc., are excluded from this warranty.

Purchaser must notify CUES of a breach of warranty not later than the last day of the warranty period; otherwise, such claims shall be deemed waived.

CUES does not warrant the materials to meet the requirements of the safety codes of any federal, state, municipal or other governmental or administrative jurisdiction. Purchaser assumes all risk and liability whatsoever resulting from the use of it's products, whether used singly or in combination with other products, machines or equipment.

This Warranty shall not apply to any materials, or parts thereof, which have (a) been repaired or altered by anyone other than CUES without CUE'S written consent, (b) been subject to misuse, abuse, negligence, accident, or damage, (c) not been installed or operated in accordance with CUE'S printed instructions, or (d) been operated under conditions exceeding or more severe than those set forth in the specifications of design tolerance of the equipment.

THIS WARRANTY AND THE OBLIGATION AND LIABILITIES OF CUES HEREUNDER ARE EXCLUSIVE, AND IN LIEU OF (AND PURCHASER HEREBY WAIVES) ALL OTHER WARRANTIES, GUARANTEES, REPRESENTATIONS, OBLIGATIONS, OR LIABILITIES, EXPRESS OR IMPLIED, ARISING BY LAW OR OTHERWISE, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, REGARDLESS WHETHER OR NOT OCCASIONED BY CUES'S NEGLIGENCE.

CUES SHALL NOT BE LIABLE FOR ANY LOSS OR DAMAGE RESULTING, DIRECTLY OR INDIRECTLY, FROM THE USE OR LOSS OF USE OF THE MATERIALS, OR FOR SPECIAL, INDIRECT, OR CONSEQUENTIAL DAMAGES, ECONOMIC LOSSES, LOSS OF PROFITS, LOSS OF BUSINESS, OR LOSS OF BUSINESS OPPORTUNITY. Without limiting the generality of the foregoing, this exclusion from liability embraces Purchaser's expenses for downtime or for making up downtime, damages to property, and injury to or death of any persons.

CUES neither assumes nor authorizes any person (including employees, agents, or representatives of CUES) to assume for it any other liability, guarantee, or warranty in connection with the sale or use of the materials, and no oral agreements, warranties, or understandings exist collateral to or affecting this warranty.

This warranty shall not be extended, altered, modified, or waived except by a written instrument signed by CUES.

W.P.C.M.D.
CITY UTILITIES
CITY OF FORT WAYNE

503 E. WALLACE ST.
FORT WAYNE, IN 46803
(219) 427-1255

BID PRICE PAGE

BASE BID

SINGLE-CONDUCTOR-COLOR-TELEVISION SEWER-INSPECTION/QUAD-LINE GROUTING-SYSTEM MOUNTED IN AN EXISTING 1977 GMC (CUES) STEP VAN WITH SOME REFURBISHING (per the attached specifications).

BID PRICE \$ 104,900.00

ONE HUNDRED FOUR THOUSAND NINE HUNDRED 00
(Price in Words)

DELIVERY AFTER RECEIPT OF ORDER: 75-120 days (Calendar)
VALIDITY OF PRICE ON BASE BID: 180 days (Calendar)

OPTIONAL ITEMS

- A. Bid the above specifications in a six (6) year Lease/Purchase Agreement on a monthly basis, based on an annual Interest Rate range from a low of 10% to a high of 12.5%.

10%
Monthly \$1,943.35
Total \$139,921.20

12.5%
Monthly \$1,974.20
Total \$142,142.40

*MUNICIPAL LEASE FUNDS ARE AVAILABLE AT 8.5% AT THIS TIME.

- B. TRADE-IN VALUE OF EXISTING EQUIPMENT:

\$ 5,000.00 /FIVE THOUSAND AND 00/100
(Price in Words)

- C. RADIAL-VIEW-TYPE COLOR CAMERA (per attached specifications)

BID PRICE \$ 23,500.00

TWENTY THREE THOUSAND FIVE HUNDRED 00/10
(Price in Words)

DELIVERY AFTER RECEIPT OF ORDER: 75-120 days (Calendar)
VALIDITY OF PRICE ON OPTIONAL ITEMS: 180 days (Calendar)

COMPANY NAME: CUES, INC.

(Company Bidder's Signature)

CORPORATE SEAL:

THOMAS E. HAAS
(Bidder's Typed Name)

DATE: MAY 1, 1990

TOLL-FREE TELEPHONE NUMBER 1-800- 327-7791

Warranty

All items furnished in accordance with these specifications shall be covered by the manufacturer's and/or supplier's standard warranty or guarantee on new equipment. The minimum warranty period on new equipment shall be at least one year, to start after final acceptance by the owner. Final acceptance is defined as the point where training has been completed, operation and maintenance manuals have been supplied and all punch list items have been resolved.

Experience

The equipment to be furnished shall be the product of a qualified firm that is regularly engaged in the manufacture and supply of this equipment. A qualified firm shall be defined to mean one which has manufactured and sold twenty or more of the specified units during the past two years. A list of at least twenty users shall be supplied. A list of at least five users of the Radial-View-Type Camera shall be furnished.

Request of Users

A. List of 20 municipalities that have purchased and operate a complete truck mounted single conductor TV/Seal unit with 2000 feet of .270 diameter single conductor cable. Multi conductor users will not be acceptable and will be cause for rejection of bid.

Yes X No _____

B. List of 10 municipal users of the Customer Service Mobile Service Vans that will attest to their value.

Yes X No _____

Failure to provide this information or providing false information will be cause for rejection of bid.

Parts and Service

To best serve the requirements of the W.P.C.M.D., it is the intent of these specifications to secure equipment, which can be properly maintained and serviced without the necessity of stocking an expensive parts inventory or being subjected to long periods of interrupted service due to lack of spare parts.

All suppliers submitting proposals shall have available a factory parts and service center. The center shall be staffed with full time technical personnel, as well as order and shipping capabilities.

Parts and Service

Personnel should be available during regular business hours and days. The factory center shall have toll free telephone service or agree to accept all collect calls from owner and be convenient to air freight, bus or overnight parcel service. When required, the supplier shall list its nearest parts and service location, plus any other pertinent information requested.

All suppliers submitting proposals must have a fleet of service van and technicians available to call on the city. The supplier shall list the location and address of his nearest service van to the City of Fort Wayne.

Electronic Equipment Loaner Policy

The supplier shall maintain loaner electronic equipment at its service center. The W.P.C.M.D. shall be allowed to request that a loaner unit be made available while its equipment is being returned for repair. The supplier shall indicate whether a rental charge is made for this equipment and service both during and after warranty.

Exceptions and Acceptability

Exceptions to the component list and specification requirements, or failure to submit requested information shall be considered sufficient cause for rejection of a proposal. W.P.C.M.D., CITY UTILITIES, CITY OF FORT WAYNE, reserves the right to reject any and all bids, to waive any and all informalities, to negotiate contract terms with the successful bidder, and the right to disregard all nonconforming, nonresponsive or conditional bids, if rejection or waiver is in its best interest.

Information to be Furnished by Supplier

Each supplier shall furnish the following information with its proposal: (Please check each item to indicate compliance)

- A. Detailed Component List
- B. Complete System Specifications
- C. Literature describing all major components in detail to include all optional equipment
- D. Photographs of a complete unit identical to the one to be supplied
- E. When required the supplier information sheet attached
- F. Compliance to the specifications shall be answered by a yes or no, and deviations and/or exceptions shall

Information to be furnished by Supplier

be clearly indicated on an attached sheet and referenced by component to aid in proper evaluation

G. State time in calendar days, from receipt of order to delivery [days after receipt of vehicle not acceptable] Days after receipt of order 75-120 DAYS

H. Supply full details outlining warranty

I. Samples

Include with this proposal the following:

TV Cable (6" sample)

Winch Cable (6" sample)

Chemical/Air Hose (6" sample)

J. Supply full details outlining loaner policy

K. Supply full details outlining service policy including factory parts and availability of full-time staff (Technical, Order/Shipping)

L. Certificate of Insurance

Demonstration of the Equipment

The W.P.C.M.D. requires each supplier demonstrate the equipment they shall supply prior to bid opening. Failure to demonstrate said equipment shall be cause for disqualification of the proposal.

Demonstration of the Optional Equipment

The TV System shall be designed to allow for the addition of a self-propelled mobile camera transporter and a radial view camera either at the time of the order or at some later date. Each supplier shall be prepared to demonstrate said transporter and radial view camera, if requested, prior to bid opening.

Grout System

The grout system shall be the Quad-type with transducer completely compatible with Data View II System.

* * * * *SUPPLIER INFORMATION SHEETS* * * * *

* * * * *TO BE COMPLETED BY EACH BIDDER* * * * *

1-Camera, Color Make CUES Model No. 750581
 2-Monitor, Color Make SONY Model No. CVM1271 Size 12"

3-Camera

Color YESAutomatic Light Compensating Circuitry YESRemote Focus YES Picture Elements *250,000+Lines of Resolution - Horizontal 320 Vertical 350

4-TV Cable

Single Conductor YES Double Steel Armored Wrap YESLength 2000' Break Strength 5600 ILBS.Diameter .270 Jacket Material STAINLESS STEEL

5-Lighting System

Small Lighthead

Large Lighthead

Pipe Size Range N/APipe Size Range 8" - 30"

Light Bulb Wattage

Light Bulb Wattage 85

Max. Lumen Rating

Max. Lumen Rating 2200

No. Bulbs Used

No. Bulbs Used 2

6-Winch Supplied

Electric Power Winch N/A

Cable Supplied: Diameter

Length

Stainless Steel

or Steel

Diameter

Remotely Controlled from the Operator's Station YESEquipped with Level Wind N/A Remote ClutchPower Cords supplied on Reel YES

Winch Power Drive - Make

Model

HP

Power TV Cable Reel Supplied

Remotely Controlled from Operator's Station YESEquipped with Level Wind YES Remote Clutch YESTransmission with Gear Selector YESNumber of Gears 5

Joint Testing/Sealing System

	<u>YES</u>	<u>NO</u>
Air Logic Controlled Fast Inflate System	X	
Electronic Void Pressure Sensing System for Joint Testing	*	
Joint Air Test System	X	
Joint Water Test System	X	
Low Viscosity Chemical Pumping System	X	
Hi/Low Viscosity Chemical Pumping System	N/A	
System Capable of Placing <u>ALL</u> Gel Type Chemicals (List Number)	X	
Wall Mounted Electric Chemical Transfer Pump	X	
Pump Panel Equipped with Stroke Counter	X	
Hoses with Stainless Steel Fittings	X	
Stainless Steel Fittings	X	
Packers for each of the Following Line Sizes:		

8"	<u>YES</u>
10"	<u>YES</u>
12"	<u>YES</u>

Total Number of Packers Supplied	3
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*REMOUNTING CITY'S EXISTING PANEL INTO NEW RACK.

SUPPLIER INFORMATION, SHEETS

List of 20 or more municipal and/or private contractor users of Single Conductor TV Sealing Units that have been in operation three or more years and that purchased the units new from the original equipment manufacturer or his distributor.

	MUNICIPALITY/CONTRACTOR	PHONE #	MONTH & YEAR PURCHASED
1.	<u>ROCKFORD, S.D., IL</u>	<u>815/397-9700</u>	<u>SEPTEMBER 1985</u>
2.	<u>DEKALB, IL</u>	<u>815/756-4881</u>	<u>NOVEMBER 1985</u>
3.	<u>NORMAL, IL</u>	<u>309/454-2444</u>	<u>MAY 1983</u>
4.	<u>KANSAS CITY, KS</u>	<u>913/573-5422</u>	<u>JULY 1985</u>
5.	<u>INDIANAPOLIS, IN</u>	<u>317/353-2111</u>	<u>JUNE 1985</u>
6.	<u>WEST BEND, WI</u>	<u>414/334-3925</u>	<u>AUGUST 1985</u>
7.	<u>INDEPENDENCE, MO</u>	<u>816/838-7161</u>	<u>DECEMBER 1973</u>
8.	<u>FAIRFIELD, IH</u>	<u>513/867-5369</u>	<u>APRIL 1985</u>
9.	<u>LOUISVILLE, KY</u>	<u>502/584-4658</u>	<u>SEPTEMBER 1988</u>
10.	<u>GOODLETTSVILLE, TN</u>	<u>615/859-4078</u>	<u>JULY 1988</u>
11.	<u>BRISTOL, TN</u>	<u>615/968-9141</u>	<u>DECEMBER 1987</u>
12.	<u>CHATTANOOGA, TN</u>	<u>615/757-5026</u>	<u>MARCH 1987</u>
13.	<u>FT. SMITH, AR</u>	<u>501/785-2801</u>	<u>JULY 1985</u>
14.	<u>LITTLE ROCK, AR</u>	<u>501/376-2903</u>	<u>JULY 1986</u>
15.	<u>BIRMINGHAM, AL</u>	<u>205/254-6315</u>	<u>MAY 1987</u>
16.	<u>DANVILLE, KY</u>	<u>606/236-5100</u>	<u>MARCH 1987</u>
17.	<u>MACON, GA</u>	<u>404/741-2623</u>	<u>APRIL 1985</u>
18.	<u>ALBANY, GA</u>	<u>912/883-6950</u>	<u>SEPTEMBER 1986</u>
19.	<u>COBB CO., GA</u>	<u>404/423-1000</u>	<u>DECEMBER 1986</u>
20.	<u>ATLANTA, GA</u>	<u>404/653-7044</u>	<u>MARCH 1984</u>

SUPPLIER INFORMATION SHEETS

List of 5 or more municipal users of Single Conductor RVC-360-Type Camera Units that are in operation and that purchased the units new from the original equipment manufacturer or his distributor. List complete units only.

MUNICIPALITY	PHONE #	MONTH & YEAR PURCHASED
1. <u>MERRILLVILLE, IN</u>	<u>219/980-5220</u>	<u>APRIL 1988</u>
2. <u>LAKE COUNTY UTIL.</u>	<u>216/257-5506</u>	<u>JANUARY 1988</u>
3. <u>KENNEWICK, WA</u>	<u>509/586-4181</u>	<u>OCTOBER 1988</u>
4. <u>POCATELLO, ID</u>	<u>208/234-6174</u>	<u>SEPTEMBER 1988</u>
5. <u>SHEBOYGAN, WI</u>	<u>414/459-3469</u>	<u>FEBRUARY 1988</u>

List of 5 or more municipal users, of your field service that are located in Indiana who can attest to its effectiveness.

MUNICIPALITY	PHONE #	MONTH & YEAR PURCHASED
1. <u>HAMMOND DISTRICT, IN</u>	<u>219/853-6413</u>	<u>MARCH 1987</u>
2. <u>INDIANAPOLIS, IN</u>	<u>317/633-5588</u>	<u>FEBRUARY 1985</u>
3. <u>SOUTH BEND, IN</u>	<u>317/277-8515</u>	<u>AUGUST 1986</u>
4. <u>MERRILLVILLE, IN</u>	<u>219/980-5220</u>	<u>MARCH 1988</u>
5. <u>KOKOMO, IN</u>	<u>317/457-5509</u>	<u>NOVEMBER 1984</u>

SUPPLIER INFORMATION SHEETS

List of 5 municipal users, of your factory parts and service who can attest to its effectiveness.

MUNICIPALITY	PHONE #	MONTH & YEAR PURCHASED
1. <u>LITTLE ROCK, AR</u>	<u>501/376-2903</u>	<u>JULY 1985</u>
2. <u>FAIRFAX COUNTY, VA</u>	<u>703/691-2401</u>	<u>SEPTEMBER 1982</u>
3. <u>MEMPHIS, TN</u>	<u>901/357-1200</u>	<u>FEBRUARY 1988</u>
4. <u>DEKALB COUNTY, GA</u>	<u>404/621-7201</u>	<u>JANUARY 1988</u>
5. <u>NASHVILLE & DAVIDSON, TN</u>	<u>615/259-6401</u>	<u>NOVEMBER 1984</u>

Loaner or Rental Equipment - State charges after warranty:

	During Warranty	After Warranty		
Camera	\$ <u><u>NONE</u></u>	per day	\$ <u><u>NONE</u></u>	per day
System Control Unit	\$ <u><u>NONE</u></u>	per day	\$ <u><u>NONE</u></u>	per day
Monitor	\$ <u><u>NONE</u></u>	per day	\$ <u><u>NONE</u></u>	per day

Warranty - State period of time on each item:

Camera	<u>1 YEAR</u>
System Control Unit	<u>1 YEAR</u>
Monitor	<u>1 YEAR</u>
Data View II	<u>1 YEAR</u>

Instructions and Training

Field Training with the unit shall be 4 days: Yes X No _____
 Blank copy of test to be provided per specs. Yes X No _____

Service Center Location:

CUES, INC.

3501 VINELAND ROADORLANDO, FL 32811Phone 1-800-327-7791Yes X No _____OR Agree to Accept All Collect Calls
From Owner:Yes X No _____TV/Seal Maintenance Tool Kit Supplied: Yes X No _____Operating Manual Supplied: Yes X No _____Systems Parts Book supporting field repair/replacement of the
various components of the delivered systems is supplied:Yes X No _____Exploded/cutaway drawings of the numerous components/assemblies
within each drawing referencing a manufacturer's part number
description are supplied: Yes X No _____Operating and Maintenance Logbook, hard bound with a minimum of
50 log sheets is furnished: Yes X No _____Equipment Maintenance Log Book, hard bound with a minimum of 25
log sheets is furnished: Yes X No _____

USED ITEMS TO BE ACCEPTED ON A TRADE-IN :

(From 1977 Cues Black & White, TV/Seal Step Van) Items are available for inspection at W.P.C.M.D., 503 E. Wallace St., Fort Wayne, IN. 46803. (219-427-1255)

Trade-in amounts to be listed separately here and total on Bid Price Page:

<u>Qty.</u>	<u>Description</u>	<u>Price In Figures</u>	<u>Price In Words</u>
2	Grout Tanks {1 Red, 1 Blue}	*	
1	Grout Tank RAck	*	
1	Tri-Line Grout Hose (Appox. 500') w/Connectors	*	
1	Tri-Line Reel w/Air Rewind	*	
1	Multi-Conductor TV Cable (Approx. 650')	*	
1	Multi-Conductor Reel w/Electric Rewind and Continuous Contact Assembly	*	
1	Data View (I) Panel	*	
1	Engineering Panel	*	
1	VTR Panel (w/o VTR)	*	
1	Bl. & Wh. 12" Monitor w/Panel	*	
1	Power Control Unit Panel	*	
1	Quick Test Panel (w/Manual Valve Controls)	*	
1	Power Winch Panel	*	
1	Sealing Panel w/Manual Flow Controls, etc.	*	
1	Transducer	*	
2	Black & White TV Cameras	*	
1	8" Packer	*	
1	10" Packer	*	
1	12" Packer	*	
1	15" Packer	*	
1	18" Packer	*	
1	Control Room Air Conditioner	*	
1	Control Room Elec. Heater.	*	

*ONE LUMP SUM OF FIVE THOUSAND DOLLARS (\$5,000.00), FOR ALL THE ABOVE TRADE-IN EQUIPMENT.

* * * * * D E V I A T I O N S * * * * *

Bidder shall itemize all deviations to the specifications here. If sufficient space has not been provided, attach additional sheets as required. A statement referring to manufacturer's literature or specifications without stating the actual deviation hereon shall be cause for disqualification. Unless otherwise stated by the bidder in the space below, the proposal shall be considered as being in strict accordance with the specifications outlined herein, even though the manufacturer's literature indicated deviations from the specifications as outlined by the W.P.C.M.D., City Utilities, City of Fort Wayne.
(NOTE: Deviations to specifications regarding optional items shall be listed last and on a separate sheet and in accordance with the stipulations stated above.)

NONE

Specifications For:CITY OF FORT WAYNE
Equipment to be Furnished:

RETRO-FIT OF 1977 CUES BLACK AND WHITE
TV/SEAL WITH TRI-LINE
TV INSPECTION AND SEALING SYSTEM
HIGH/LOW VISCOSITY
SINGLE CONDUCTOR - COLOR
COMPONENT LIST

QTY	DESCRIPTION
1	Air Conditioner Roof Mount, 120 Volt Viewing Room
1	Electric Heater, 120 Volt Viewing Room
1	Interior Light Fixture, Viewing Room, 120 Volt
1	Interior Light Fixture, Equipment Room, 120 Volt
1	115 Volt Spotlight with 50' Cord on Automatic Reel, Mounted by Rear Door - Inside of Van Interior
1	Exhaust Vent Fan at Chemical Tanks, Auto Louver
2	Floodlight, Rear of Truck Area Illumination
1	115 Volt Interior Duplex Outlet inside Rear of Equipment Room
1	Auxiliary Storage Battery, 12 Volt w/Case
1	Auxiliary Automatic Battery Charger, 10 Ampere
1	Operator Chair
1	Modular Control Center Rack Mount Cabinet
1	Set Equipment Storage Brackets and Hooks
2	Replace (2) Doors and Fasteners on Generator Enclosure Low Noise Fire Retardant
1	External Access Door for Generator Servicing
1	Slide Out Rail Assembly for Generator Servicing
1	Install New Exhaust System for City's Existing Generator
1	Refurbish Driver's Seat add Seat Belt and Sunvisor
1	Refurbish Passenger's Seat add Seat Belt and Sunvisor
1	Undercoating
1	Install Cab Dome Light
1	Replace Plastic Guides for Cabinets in Viewing Room
1	Sink and Stand , with Holding Tank Mounted in Equipment Room with Outside Drain
1	High Intensity Desk Lamp - Wall Mounted with Wall Switch
1	3" Diameter Solid State Color Sewer TV Camera w/Remote Adjustable Optical Focus, Automatic Light Compensating Iris, and Automatic White Balance Circuitry, Single Conductor, NTSC Color Standard to include: 1 Small Lens Cover 1 Large Lens Cover 1 Camera Storage & Transportation Case 1 Camera Test Cable Assembly

Page 2 CITY OF FORT WAYNE
COMPONENT LIST

QTY DESCRIPTION

- 1 Color TV Power Control Unit-Single Conductor Modular Control Center Mount, NTSC Color Standard to include:
 - 1 TV Camera Remote Optical Focus Control
 - 1 TV Camera Automatic Iris Remote Control
 - 1 TV Camera Circuit Testing System w/Meter
 - 1 TV Camera Lighthead Intensity Control w/Meter
 - 1 Video Tape Switching Module for Remote Control
- 1 12" Color Industrial TV Monitor, 500 Line Resolution Modular Control Center Mount, NTSC Color Standard
- 1 8mm Camcorder -, Cannon Model E511
- 1 Video Light
- 1 Battery and Battery Charger
- 1 Case for Camcorder
- 1 Waterproof Bag for Camcorder
- 1 System Engineering Panel, Modular Control Center Mount with:
 - 1 AC Voltmeter, Power Supply
 - 1 Hertz Meter, Power Supply for 60Hz
 - 1 Generator Hour Meter
 - 1 Remote Generator Start/Stop Control Switch
 - 1 Glow Switch for Amber Warning Beacon System
- 1 Footage Meter w/Local Mechanical Readout and Remote Electronic Counter F/Data View
- 1 Data View II Data Display System, Modular Control Center Mount to include:
 - 1 Data View II Alpha Numeric Information Display, 10 Lines with up to 16 Characters per Line
 - 1 Data View II Remote Keypad for Data Entry
- 1 Video Tape Recording System to include:
 - 1 Modular Control Center Tray Mount for Video Recorder
 - 1 Audio Recording Microphone
 - 1 1-Hour 1/2" Recording Tape Cassette
 - 1 VTR Power Supply Cable Assembly
- 1 Television Cable Winch/Reel w/Power Level Wind Electric Motor Drive & Multi-Ratio Manual Transmission to include:
 - 1 Winch Reel Motor Controller Desk Mount at Viewing Station
 - 1 Transmission Control Linkage at Viewing Station
 - 1 Local Reel Mount Electrical & Mechanical Control
 - 1 Sealed Continuous Contact Gold Plated Collector Assembly
- 1 Combination TV Transmission & Double Steel Armored Tow Cable Assembly, .270 Diameter, 5600# rating-2000' Single Conductor to include:
 - 1 Cable Terminal Connector
 - 1 Terminal Connector Protective Tail Cone
 - 1 Cable Grip-Single Conductor
 - 1 3-Pin Dummy Plug
 - 1 3-Pin Extender Cable
 - 1 Tow and Tag Line Bridle Set - S.S. Armored Cable
 - 1 Single Conductor Cable Terminal Repair Kit
- 1 High Performance Lighthead w/Focused Light including
 - 2 Bulbs w/Reflectors for Color Camera 8-30"
 - Pipe Sizes
- 20 Spare Bulbs w/Reflectors

Page 3 CITY OF FORT WAYNE
COMPONENT LIST

QTY DESCRIPTION

- 1 Camera Transportation Skid Set to include:
 - 1 8" to 30" Pipe Diameter Skid Spacer Plate Kit
 - 2 Bottom Stainless Steel Runners
 - 3 Top Stainless Steel Runners
- 1 Winch Power Cord Reel Assemblies w/500' Power Cord Each
- 2 Replace Power Cord (500') on Two Existing Winch Power Cord Assemblies
- 1 Power Winch Motor Controller-Desk Mount at Viewing Station
- 1 High/Low Viscosity Multi Grout Chemical Pumping System to include:
 - 1 Air Motor Drive
 - 2 1:1 Ratio Positive Displacement SS Pumps
 - 1 8:1 Ratio Positive Displacement SS Pump
 - 2 Stainless Steel Quick Disconnect Check Valves
 - 1 Pump Adjustment Tool
 - 1 High Viscosity Liquid Positive Shut Off Valve
 - 1 Suction Assembly for High Viscosity Chemical
- 2 Chemical Tanks Non Corrosive, 30-Gallon Working Capacity Non-Pressurized w/Electric Mixers and Sight Gauges
- 1 Install City's Existing Water Storage Tank with new Plumbing Connections
- 1 Quad-Passage Hose Reel, Electric Motor Powered Rewind, Multi-Ratio Manual Transmission to include:
 - 1 Electric Reel Drive Motor Control Reel Mount
 - 1 Manual Reel Transmission Control Linkage Reel Mount
 - 1 Quick Inflate High Speed Packer Inflation Module
 - 1 Quick Deflate System
- 1 Quad-Line Chemical/Air/Water Hose Assembly 500' to include:
 - 4 Hose Terminal Quick Connector SS Locking
 - 2 SS Check Valve Assembly Chemical Hose
 - 1 Posatrynn Joint Testing/Sealing Adapter w/Transducer
 - 2 Spare Transducers
- 1 Test N' Seal Control Center/Modular Control Center to include:
 - Incorporate existing Posatrynn - Type Remote Pressure Sensing System Modular w/Digital Readout and Clock Timer 60 Hz
 - 1 Pipe Joint Air Test System
 - 1 Pipe Joint Water/Liquid Test System w/Leak Rate Loss Flow Meter
 - 1 Sealing Control Panel w/Pump Controls and Stroke Counter
- 1 Remount City's Existing Air Compressor
- 1 8" Seal Packer Assembly w/Tow Cables - Multi Grout
- 1 10" Seal Packer Assembly w/Tow Cables - Multi Grout
- 1 12" Seal Packer Assembly w/Tow Cables - Multi Grout
- 4 Batches of Chemical for Training Purposes (minimum 240 mixed gallons)
- 1 Box Root Retardant Chemical (12 packets)

Page 4 CITY OF FORT WAYNE
COMPONENT LIST

QTY DESCRIPTION

- 1 Chemical Transfer Pump
- 1 Chemical Handling and Safety Package to include:
 - 3 Chemical Scoop
 - 3 Chemical Measuring Cup
 - 3 Chemical Mixing Paddles
 - 3 Pair Goggles
 - 3 Pair Gloves
 - 3 Respirator
 - 3 Chemical Waste Disposal Kit
- 1 Cable Manhole Guide System to include:
 - 2 TV Invert Pulley Assemblies
 - 8 Quick Lock Extension Poles
 - 2 Manhole Adapter Hooks
 - 1 Manhole Top Roller Assembly
- 1 Quad Hose Invert Pulley Attachment
- 1 Float Line 1/4" Polyurethane Braid 1000' on Reel
- 1 TV/Seal Maintenance Tool Kit
- 3 TV/Seal Operating Manuals
- 1 TV/Seal Systems Parts Book
- 1 TV/Seal Inspection-Test/Seal Recording Manual Loose-
Leaf Binder to include:
 - 50 Inspection-Test-Seal Recording Forms
- 4 Days of Training
- 1 Mutli Hitch, Model K200 with 2", 1 7/8", 2 5/16" Balls and
K-1250 Square Tube Adapter installed on Van
- 1 Confined - Space Entry /Exit Sets
- 1 Set of Block Diagrams
- 1 Crane with Extending Boom
- 1 Spare Parts to include the Following:
 - 8 Cable Connectors - "Y" Eliminators
 - 12 3-Pin Dummy Protector
 - 2 3-Pin Extender Calbes
 - 8 Steel Armored Cable Repair Kits
 - 10 Waterproof Splice Kits
 - 20 Spare Bulbs - 85 Watt
 - 20 O-Rings for High Performance Lighthead
 - 20 Gaskets, Front, High Performance Lighthead
 - 4 Transducers
- 1 Remount Communication Jack
- 1 Pick-up and Delivery of Unit

DETAILED SPECIFICATIONS

STEP VAN BODY TV/SEAL

Adjustments to 1977 GMC Step Van:

- Fully undercoated
- Refurbish Latch Assemblies (2) on Double Rear Doors
- Hand hold grip, rear entry, passenger side
- Refurbish roller mechanism on sliding keyed side doors
- Replace Latches on sliding windows - both sides
- Exterior generator access door, 40" X 37" drivers side
- Generator mounting package to include frame and sliding roll out rails for easy access, service and replacement
- Cab dome light
- Auxiliary air conditioner (11,000 BTU) and heater (1500 watt forced air)
- Wall mounted vent fan equipment room
- Dual night lights mounted top rear

STEP VAN BODY INTERIOR TV/SEAL

The interior of the van body shall be divided into three areas of operation: driver's compartment, TV sealing control room (operator's station and viewing room) and the equipment room (equipment mounting and storage area). The electrical system shall be fully designed to sustain the complete electrical requirements of all components of the television inspection and repair system. Standard floorescent lighting and electrical outlets will be supplied in both the control and equipment rooms. All electrical wiring and connecting hoses shall be neatly enclosed in a removable aluminum channel mounted at the wall and ceiling joint. All wiring shall be done in compliance with the National Electric Code.

CONTROL ROOM TV/SEAL

The TV Sealing Control Room shall be located toward the front of the van body. It shall be separated from the drivers compartment and the equipment room by bulkheads. The full wall storage cabinets with sliding access doors shall have the plastic guides replaced.

The control room will be equipped with an auxiliary air conditioner and heater of standard manufacturer and shall be designed for a working temperature range of 65 degrees to 80 degrees with the outside air temperature ranging from 32 degrees to 95 degrees. A high intensity wall mounted desk lamp with wall mounted switch will be supplied.

EQUIPMENT ROOM TV/SEAL

The equipment room will be located at the rear of the van body. The equipment room walls will be covered with corrosion resistant embossed aluminum sheets (.040 thickness) riveted on 16" centers. This material will lend itself to easy cleaning and will not require periodic painting. All the floor and wall joints shall be caulked with a flexible sealer. The equipment room shall have fixed mounting areas for the reels, tanks, air compressor and generator. The generator will be mounted and fully enclosed under the control center cabinet. The generator enclosure shall be lined with a lead coated material to retard sound and fire. The generator shall be mounted on a specially designed frame with slide out rails at the truck floor level so it can easily be serviced or removed. Generators that require access from inside the van or whose external access is at a level that requires a ladder for proper servicing, will not be acceptable. Access to the generator will be from the outside of the van through a key locked door. The equipment room will also allow sufficient storage space for downhole equipment, winches, packers, chemical, safety items and other miscellaneous equipment necessary to perform the inspection, testing and repair operation.

MODULAR CONTROL CENTER RACK MOUNT CABINET TV/SEAL

All TV and Sealing Control Components shall be of modular design and available for rack mounting at the operator's station in the control room. A specially designed enclosed cabinet will be furnished to house a 19" frame for rack mounting of the modular electronic components. The cabinet will be fully open to the control room and accessible from the equipment room through two sliding doors that can be removed. Organization of the control center components shall permit maximum operating efficiency by a single operator. The rack mounted components shall permit fast and easy inspection, adjustment, servicing, removal and replacement. Systems that use case mounted or free standing control units that are subject to damage during travel will not be acceptable.

GASOLINE GENERATOR W/ELECTRIC START - 6500 WATT

The existing generator shall be incorporated into the new system. A new exhaust system shall be installed on the generator to exit to the side.

SOLID STATE COLOR SEWER TELEVISION CAMERA - SINGLE CONDUCTOR

The color sewer television camera shall be specifically designed for operation through a minimum of 2000 feet of single conductor cable in sanitary and storm sewers. Converted studio, surveillance or underwater cameras not originally designed for high vibration and impact service shall not qualify as being equal. Chassis construction shall include 100% solid state circuitry designed to withstand shocks and vibrations normally sustained while being pulled through a pipe. The image pick-up device shall be solid state incorporating the latest technology. The camera outside diameter shall be no greater than 3 inches to allow for inspection in small size pipes. Operating temperature ranges of the camera shall be 0 degrees C to 50 degrees C.

SOLID STATE COLOR CAMERA REQUIREMENTS - SINGLE CONDUCTOR

The camera shall be capable of providing 320 lines of horizontal resolution and 350 lines of vertical resolution. The image pick-up device will contain in excess of 250,000 picture elements (pixels). Scanning shall be 525 lines, 60 fields, 30 frames, interlaces 2:1 - NTSC Color Standard. The camera shall develop a true color and transmit a sharp image picture on video bandwidths only. Picture transmission systems that require the use of R.F. suppressors and are subject to local transmitter interference shall not qualify as being equal. Full color video bandwidths shall be provided with no sacrifice of low frequency response. There shall be no visible streaking of the low frequency response. There shall be no visible streaking of the low frequency test bars when viewing a standard EIA Test Chart. The composite video signal derived from the video camera shall be 1.0V (140 IRE Units) at the monitor after transmission through 2000' of single conductor cable. The camera shall be equipped with an automatic iris to control the illumination range for an acceptable picture between 10 and 100,000 Lux. Geometrical distortion of the image shall not exceed 2%.

CAMERA OPTICAL LENS - REMOTE CONTROLLED

The camera shall be equipped with a standard C Mount 8MM, F1.4 wide angle lens with an optical viewing angle to 70 degrees. The lens shall be an auto iris type with a manual override remotely controlled from the viewing station.

COLOR CHIP INSPECTION CAMERA - SINGLE CONDUCTOR - TECHNICAL
SPECIFICATIONS

Features:

1. Remote controlled focus and iris
2. Automatic white balance
3. Low lag and high resistance to image burn-in
4. High resistance to vibration or mechanical shock
5. Precise image geometry and long life
6. Excellent color rendition and low light sensitivity
7. Image pickup devide (CCD) that has a lower random noise feature in comparison with other devices (i.e. MOS or CPD)

Electrical Specifications:

Image pick-up	Interline transfer CCD color device
Picture elements (pixels)	510 (H)x492 (V)=250,920 elements
Sensing area	8.8x6.6mm (same as 2/3 inch camera tube)
System standard	NTSC color 525 lines, 60 fields/second
Supplied lens	8mm (F1.4) with auto iris with manual override
Lens mount	Standard "C" mount 1"x32 threads
Horizontal resolution	320 lines
Vertical resolution	350 lines
S/N ratio	48db
Minimum illumination	10 lux (F1.4)
Illumination range	10-10,000 lux (1-1,000 ft. candles)
Color temperature	Auto: 2100 degrees K - 10,000 degrees K
Power requirement	Single conductor 50-150 VDC 20 watts
Video output	1.0 volt p-p 75 OHMS
Vibration	7G (11 Hz to 200 Hz)
Shock	70G

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DETAILED SPECIFICATIONS

Geometric distortion Not to exceed 2%

CAMERA PROTECTIVE HOUSING

The camera shall be housed in an anodized, high strength, aluminum alloy tube no more than 3 inches in diameter and 22 inches in length. The aluminum housing shall be 1/4" minimum thickness and shall be treated to resist corrosion. Thinner walled aluminum or stainless steel housings that easily dent on impact will not be considered equal. The front of the housing shall have a viewport of impact resistant, distortion free optical glass. The rear of the housing shall have a recessed bell to protect the 3 pin indexed cable connector. The housing shall be fully sealed at the factory to withstand external pressures in excess of 400 psi without damage or leakage. There shall be no external mechanical adjustment ports in the housing. A small and large lens cover will be provided to protect the camera viewport after disconnection at the jobsite and during storage.

SOLID STATE COLOR CAMERA CONTROL CIRCUITRY

The color camera shall be equipped with the necessary circuitry to allow for the remote adjustment of the optical focus and automatic iris from the power control unit at the viewing station. The camera shall be equipped with the necessary circuitry to automatically white balance the color picture to the light source within a range of 2200 to 3200 degrees K. Color cameras that require manual external focus or iris adjustments shall be deemed not acceptable. The camera shall be calibrated with both color bench test and picture analysis equipment at the factory. Each camera system shall be equipped with a test cable to allow for the direct by-pass of slip rings, TV cable and any applicable connectors for testing purposes.

CAMERA STORAGE AND TRANSPORTATION CASE

A damage resistant case will be provided for the camera while it is in storage or during transport including shipping on commercial carriers. The interior of the case shall contain a styrofoam saddle and a lid installed styrofoam yoke to firmly hold the camera and protect it from damage. The case shall be equipped with metal closing latches.

COLOR TV POWER CONTROL UNIT - SINGLE CONDUCTOR

The power control unit shall provide all the necessary power and controls to operate and monitor the television inspection system. All circuits shall be of solid state design, assembled in a rack mounted chassis for installation in the modular control center. The faceplate shall be anodized, heavy gauge aluminum and shall have permanent labels designating the function or purpose of the various switches, meters and controls. The PCU shall have a back plate for all cable connectors each separately indexed and locking, and labeled as to purpose.

COLOR POWER CONTROL UNIT TECHNICAL REQUIREMENTS-SC-60 HZ

The color power control unit shall operate off of 120 VAC, 60 cycle current. The PCU shall contain a solid state lighthead power source whose input shall be through an isolation, variable voltage transformer and whose output shall be from 0 volts to 120 volts DC. A light intensity adjustment control and DC volt meter shall be provided on the front panel. Input and output of both the camera and lighthead power shall be protected by circuit breakers with indicators to identify open circuits. Circuits shall be isolated to provide operator protection from electrical shock hazards. The PCU shall be equipped with a circuit testing capability to include a multi-position selector switch and meter to quickly check or troubleshoot the systems circuits.

COLOR POWER CONTROL UNIT REMOTE CAMERA ADJUSTMENT - SC

The color power control unit will be equipped with the following remote camera adjustments:

Focus Control - A two pole switch spring loaded to off, permits the operator to adjust the camera focus for changes in pipe diameter or different views of defect conditions. In the neutral position, the camera focus will be electronically locked.

Automatic Iris Control - This control allows the operator to override the camera's automatic light compensating circuitry operating range in the event an excess of light or lack of light produces a poor picture response. With the proper adjustment, the operator can change the iris opening to compensate for the light level available thereby improving the picture response.

Systems requiring manual external camera settings or the removal of the camera from the sealed housing in the field to make these adjustments, shall be deemed not acceptable.

12" COLOR INDUSTRIAL MONITOR - MODULAR - NTSC

The on-board television viewing monitor shall be a high quality, industrial grade color unit providing in excess of 500 lines of resolution. All circuits shall be of a solid state design with the exception of the picture tube. The picture tube shall be of high resolution trinitron type or equal. The picture shall measure a minimum of 12" diagonally.

The monitor shall include voltage compensation circuits to reduce picture distortion to less than 1% under voltage conditions varying from 105V to 120V. The monitor shall be housed in a steel cabinet which acts as a shield to minimize the effects of local magnetic fields such as transformers, coils, wraps or cable, etc. Monitors that have inadequate or no protection from local magnetic fields thereby contributing to a loss of purity in the color picture will be deemed not acceptable. The monitor will be equipped with a speaker to allow for audio playback from a video tape recording.

The monitor shall be fitted with an anodized aluminum face plate designed for rack mounting in the modular control center. Standard color monitor controls shall be provided and permanently labeled as to function.

SYSTEM ENGINEERING PANEL

The engineering panel shall provide central control and monitoring of the power supply to the system. The panel circuitry shall be assembled on a rack mounted chassis for installation in the modular control center. The face plate shall be heavy gauge, anodized aluminum and shall have permanent labels designating the function of the various switches and controls. Provisions shall be made on the panel for the following items:

Remote Spring Loaded Generator Start/Stop Switch
AC Volt Meter
AC Frequency Meter (58-62 Hertz)
Generator Hour Meter

CABLE COUNTING METER, LOCAL MECH./REMOTE ELECTRONIC READOUT

The unit shall be equipped with a counting meter designed to accurately measure cable travel in feet and tenths of feet. The metering head shall be constructed of machined cast aluminum parts and shall include the necessary sheaves, wheels and guides. It shall be mounted on the TV reel power level wind assembly. The meter shall be equipped with a local mechanical readout for use at the rear of the unit and an electronic counter which is connected to the Data View System at the operator's station.

DATA VIEW II DATA DISPLAY

A Data View II system shall be provided to permit alpha numeric information to be displayed on the monitor screen and permanently on video tape. Mechanical and audio means of recording the information on the video tape after the time of inspection shall not be acceptable. All circuits shall be of solid state construction and assembled in a rack mount chassis for installation in the modular control center. The faceplate shall be anodized, heavy gauge aluminum and shall have permanent labels designating the function of the various switches and controls. The Data View II shall have a back plate for all cable connectors, each separately indexed and locking and labeled as to purpose. The system shall include a remote, hand-held keypad to allow easy entry of information by the operator at the viewing station. The keypad will be equipped with a sealed membrane Mylar overlay describing each entry function. The keypad will be supplied with a Velcro pad for convenient mounting when not in use.

DATA VIEW II DATA DISPLAY INFORMATION

The system will be capable of displaying 10 lines of alpha numeric information with a maximum of 16 characters per line. Information lines displayed will be as follows:

- | | |
|------------|---|
| Line 1 | Manufacturer Identification |
| Line 2 | Remark Line (i.e., customer name) |
| Line 3 | Remark Line (i.e., customer location) |
| Line 4 | Manhole Identification
(upstream and downstream) |
| Line 5 | Pipe Size (inches)/Pipe Type |
| Line 6 | Pressure (PSI in pounds and tenths) for Joint Test and Seal Units |
| Line 7 | Real Time Clock (hours and minutes/
Date (month, day and year)) |
| Line 8 | Footage (distance in feet and tenths)
and Flow Direction |
| Line 9, 10 | Keyboard Remark Lines (defect coding)
available when a Television Datalog Unit
(TDU) is present and active. These entries
would then be displayed on the video tape
in addition to the information from Lines 1
through 8. |

The system will include a full screen instruction guide (menu) for the operator to enter the desired information while operating with the keypad.

DATA VIEW II OPERATING FEATURES

The Data View II system will offer the following operating features:

Select video character brightness (full range white to black).

Select character size (small and large).

Select footage count direction (to or away from unit). Allows system to count footage from 0 to maximum regard less of whether the camera is being towed to the inspection unit from the remote manhole or away from the inspection unit from the local manhole.

Select flow direction (inspection with or against the flow). Allows the operator to record whether the camera is travelling with the flow (+) or against the flow (-) during dry pipe inspection.

Select footage preset (feet and tenths). Allows the operator to input the distance from the center of the manhole to the focal point of the camera after set-up and prior to beginning travel through the pipe.

The pressure line, footage line and time/date line can be displayed independently after the video tape has been identified. The display can be further reduced to show footage only. The information display shall be able to be moved horizontally or vertically over the face of the monitor as required.

A footage memory circuit will be included which prevents the loss of any information in the event the onboard power supply is interrupted. When power is resumed, the complete information display will reappear on the screen.

The unit will have a power consumption of 108 watts at 120 volts (+10% to -20% range) and operate at 50/60 Hz.

VIDEO TAPE RECORDER MOUNTING

The recorder shall be fitted with an anodized, aluminum faceplate and tray designed for rack mounting in the modular control center. Desk mounted recorders that are subject to damage during travel will not be acceptable. The faceplate will allow for complete access to the tray controls and the tape deck for cassette replacement. Recorders that must be removed from the rack mount to replace cassettes will be deemed not acceptable.

MICROPHONE VIDEO TAPE SYSTEM

A microphone for adding audio to the video tapes shall be provided. The microphone shall have a 10,000 OHM rating and shall plug directly into the recorder.

COMBINATION VIDEO TRANSMISSION/TOW CABLE - SC

A combined video and towing cable shall be furnished in a continuous length of not less than 2000'. The cable shall consist of a shielded coaxial center core wrapped with a mylar insulation. A double wrap of steel wires shall encircle the center core to provide the cable with the required towing tensile strength. The complete cable shall be torque balanced to prevent unraveling or stretching of the steel wire wraps. The cable shall have a minimum break strength of 5600 lbs., shall be .270 inches in diameter and withstand external pressures of up to 400 psi. Larger diameter and heavier multi-conductor cables with limited towing strength will not be considered equal.

CABLE TERMINATION CONNECTION - SINGLE CONDUCTOR

The end of the single conductor cable shall be equipped with a metal encased 3 pin molded connector to allow for direct wiring of the cable to the camera. No scotchast assemblies, pigtail connector or wye cables will be necessary. Systems requiring these items will not be considered equal. A specially designed slotted cone will be supplied to trap the cable end connector when it is connected to the camera. The cone shall fit into the rear recessed portion of the camera housing preventing any possible disconnect situation during operation or damage to the end connector. A cable grip will be supplied to transfer the cable towing strength to the camera skid runners. A cable extender shall be furnished to allow for reversing the travel direction of the camera so the main cable does not have to be looped or doubled back.

REMOTE CONTROLLED ELECTRIC POWER TV CABLE ASSEMBLY - SC

A TV cable reel assembly will be supplied with a minimum storage capacity of 2000' of .270 minimum diameter video transmission cable. The reel shall be chain driven and properly reinforced to withstand 200% of the maximum motor torque to insure trouble-free operation. The reel shall be powered by a variable speed electric motor and driven through a multi-gear ratio transmission. The transmission will have a minimum of 5 speeds limit the motor load during varying towing conditions. The reel shall be equipped within automatic level wind assembly to evenly pay out or rewind the cable to prevent pile-ups, entanglements and burying. The reel shall be built into a rugged frame designed for fixed mounting into a unit. The reel drum and level wind shall be open to view to allow for inspection during operation. TV reel systems that are not remotely powered or have manual level wind systems will not be acceptable.

TV CABLE REEL SLIP RING ASSEMBLY - SINGLE CONDUCTOR

The reel shall be equipped with a disc type, continuous contact rotary slip ring assembly. The assembly will be equipped with a minimum of two slip rings to conduct the necessary current and signals through the reel. The rings will be coated with a metallic gold alloy to maximize electrical conductivity and minimize corrosion. The slip ring assembly shall be fully enclosed in a dust and weatherproof protective cover. Spring tension contact brushes will be mounted in the outside coverplate to mate to the rings on the disc. There shall be two brush contacts per ring. It shall not be necessary to remove the cover or open the assembly to change the brush assembly or clean the rings. System equipped with the high maintenance copper slip ring assemblies shall not be considered.

TV CABLE REEL CONTROL, REMOTE AND LOCAL

The TV cable reel shall be equipped with a remote control assembly designed for desk mounting at the operator's station. The controller shall include an on/off switch, clutch control, speed control and an amp meter to indicate motor load during operation. A gear shift selector and linkage shall be provided at the viewing station to operate the reel mounted transmission. The combination of the reel controller and transmission gear shift selector will maximize the efficiency of the television inspection operation and minimize the load on the reel and motor. A speed controller, gear shift selector and on/off switch shall be provided at the reel for local control during set-up.

HIGH PERFORMANCE LIGHTHEAD W/FOCUSED LIGHT - SC

A high performance lighthead will be furnished to provide the proper illumination to inspect 8" to 30" diameter pipes with a color camera or 8" to 60" diameter pipes with a low light level black and white camera. The special focus design shall project ample light to a minimum of 8' down the pipe from the camera. The lighthead shall be of aluminum construction and shall have the necessary contact points and mounts to use two 85 watt bulbs each with an individual multi-faceted reflector. The bulbs and reflectors shall be fully enclosed and protected by glass face plates built into the front of the lighthead. The lighthead will be a 3 piece design to allow for easy disassembly, repair and replacement of component parts such as bulbs and reflectors. The lighthead shall easily mount directly to the front top of the camera. No pigtail connectors will be required.

CAMERA TRANSPORTATION SKIDS 8-30" PIPE SIZES

A transportation skid assembly will be supplied to provide protection for the camera and lighthead from in-line obstructions. A cast aluminum yoke with an inside lining of high friction cushion material will firmly grip the camera while providing maximum protection to the camera and its case. Spacer plates will be provided to attach the bottom skid runners to the yoke. The camera skid assembly shall be adjustable to inspect line sizes from 8" to 30" by substituting spacer plates. This adjustment shall be made without removal of the camera from the yoke assembly. Two corrosion resistant stainless steel skid runners will be provided to tow the camera through the line. The runner ends shall be bent upward to provide a natural lift when encountering pipe offsets and small obstructions. The runner ends shall be machine slotted to insert the ball ends of the camera tow and tag cables. Three corrosion resistant stainless steel skid guards will attach to the yoke to protect the lighthead in the event the camera should be turned over in the line. The skid runners and guards shall be machined to a round and smooth contour to minimize fouling from debris in the sewer lines. Systems using steel runners subject to corrosion or having squared or sharp edges there by accumulating debris, will not be acceptable.

POWER WINCH CONTROLS, REMOTE AND LOCAL

The power winch system shall be supplied with a remote control assembly designed for desk mounting at the operator's station. The control shall include an on/off switch clutch control (forward/reverse switch) speed control and an amp meter to indicate motor load during operation..

HIGH/LOW VISCOSITY MULTI-GROUT CHEMICAL PUMPING SYSTEM

The High/Low Viscosity Multi-Grout Chemical Pumping System shall have the capability of placing gel type sealants ranging in viscosity from 2 centipoise to 1200 centipoise. Lower viscosity sealants can be delivered at a rate of up to 10 gpm and the higher viscosity sealants can be delivered at a rate of up to 5 gpm. A specially designed position shut off valve and suction assembly will be furnished to accomodate the high viscosity sealants. The pump system shall be engineered so that the chemical delivery volume ratios can be changed with a simple pump substitution or change in the combination of pumps used. The system is capable of accommodating all the commercially available gel type sealants plus most other gel type sealants available in the future. Pumping systems that are designed to use single sealants only or sealants from a single manufacturer will not be acceptable.

PUMP CONSTRUCTION - HIGH/LOW VISCOSITY SYSTEM

The pump frame shall be constructed of aluminum with the plate designed so that up to three pumps can be operated. The unit will be delivered with 1 to 1 and 8 to 1 ratio pumps. All wetted pump parts will be stainless steel for corrosion resistance and longer life. A pump adjustment tool will be furnished. All chemical hoses at the pump shall be equipped with quick disconnects.

PUMP AIR DRIVE SYSTEM

The pumps shall be operated by a single air drive motor so that fixed volumes will be delivered with each stroke. The pump speed (strokes per minute) can be varied depending on the volume of air delivered to the air motor. A stroke counter will be furnished with a remote readout located at the control panel so that the volume of mixed chemical can be measured. The air delivery line shall be equipped with a suitable pressure relief valve to limit the output pressure of the pump to the safe operating pressures of the hoses and interconnect plumbing.

CHEMICAL TANK ASSEMBLY

The system will be supplied with two chemical mixing and storage tanks constructed of a heavy duty non corrosive material. The capacity of each tank shall be no less than 30 gallons to insure an ample chemical supply to seal large voids. With the added capacity of the water storage tank, the total chemical mix capability on board the unit shall be 120 gallons minimum. Each tank shall be equipped with a removable cover, sight level meter and an electric agitator. The agitators shall be used to thoroughly mix chemical components, root inhibitor additives and keep any inert organic fillers in suspension when added to the sealant tanks. The tank assembly will be supplied with a drip tray to drain off any spilled material. Systems that offer a chemical mix capability of less than 100 gallons will not be acceptable.

WATER STORAGE TANK

Use City's existing system.

HOSE REEL ASSEMBLY - ELECTRIC POWERED

The unit will be supplied with a hose reel assembly designed to accommodate a minimum of 500' of quad line hose. When combined with a TV reel, it shall be mounted side by side within a heavy duty frame assembly. The top of the frame will be covered with a 44" X 42" X 3/4" piece of plywood that acts as a workbench area. The air and chemical hoses shall be connected through specially designed stainless steel rotary couplings to allow for continuous operation without disconnection. A dump valve will be attached to the air coupling to allow for quick deflation of the packer elements. An electric motor of sufficient size shall power the reel through a chain drive. The chain drive will be designed to withstand 200% of the maximum motor torque to insure trouble free operation. The reel shall be equipped with a multiple gear ratio transmission to provide a range of torque settings to retrieve the quad line hose when extended to their full length. The motor speed control and gear selector shall be conveniently located at the reel. The hose reel assembly will be supplied with a drip tray to drain off any spilled material.

QUAD LINE CHEMICAL AIR HOSE

The system will be supplied with 500' of quad line hose with a minimum burst pressure of 500 psi. The hose shall consist of two 5/8" ID flow lines for passage of the chemical, one 3/8" ID line for air flow to inflate the packer and one 3/8" ID line for air or water flow to test the joint. One of the chemical flow lines shall be equipped with a special moisture proof inner liner. The four hoses shall be bonded together for ease in movement through the line storage on the reel.

QUAD LINE HOSE TERMINAL ASSEMBLY

Each hose in the quad line grouping will be equipped with a stainless steel quick connect/disconnect fitting with notched locking rings. In addition, each chemical flow line will be equipped with a stainless steel check valve assembly to prevent back flow of the chemicals. A specially designed stainless steel H-block assembly shall be furnished to include the posatryn void pressure sensing transducer, electronic connector to the TV cable and test medium line check valve. Systems that use brass, bronze, plated steel or plastic fittings shall not be acceptable.

QUICK INFLATE/DEFLATE SYSTEM

The control center will include a quick inflate system designed to seat the packer elements on the pipe walls as quickly as possible. The system shall be designed to supercharge the packer inflation lines with high pressure air for a short period of time before normal inflation pressures resume to seat the elements. A timer shall be furnished to control the inflation time when using different packers for varying line sizes. A quick deflation system will be supplied to receive the pressure as quickly as possible in the packer rubber elements. Rapid seating and deflation of the elements is necessary to shorten the testing and sealing cycle time thereby increasing the production rate for each operation. Systems using the slower manual inflate systems will not be deemed equal.

TEST N' SEAL CONTROL CENTER

The control center shall be designed to give the user all the necessary controls for regulating the inflation pressures of the packer, quick inflation and deflation of the packer, air or liquid testing of each joint, chemically sealing leaking joints and constant monitoring of the packer void pressure during the testing and sealing operation. Units not having these controls will not be considered equal for this application.

POSATRYN REMOTE PRESSURE SENSING SYSTEM

Use City's existing System..

PANEL CONTROLS

The control panel shall have all the necessary pump operating controls to include pump start/stop, pump pressure regulator and a stroke counter for chemical volume measurement to insure proper line sealing under varying soil conditions. The piping, valves and gauges where necessary shall be of stainless steel or other corrosion resistant material to reduce maintenance on the system. All connections necessary for operation of the system shall be completely installed.

QUICK INFLATE/DEFLATE SYSTEM

The control center will include a quick inflate system designed to seat the packer elements on the pipe walls as quickly as possible. The system shall be designed to supercharge the packer inflation lines with high pressure air for a short period of time before normal inflation pressures resume to seat the elements. A timer shall be furnished to control the inflation time when using different packers for varying line sizes. A quick deflation system will be supplied to receive the pressure as quickly as possible in the packer rubber elements. Rapid seating and deflation of the elements is necessary to shorten the testing and sealing cycle time thereby increasing the production rate for each operation. Systems using the slower manual inflate systems will not be deemed equal.

AIR/WATER TEST SYSTEM

The control center shall be equipped with the necessary air and liquid testing systems. If air testing is selected, it shall allow the operator after proper inflation of the packer, to pressurize the void area in the packer with a regulated amount of air ranging from 0 to 10 psi and to electronically read any subsequent pressure drop in the void chamber on the readout at the operating station. If liquid testing is selected, it shall allow the operator after proper inflation of the packer, to fill the void area in the packer with liquid. A flow meter in the panel shall allow the operator to calibrate the amount of liquied loss from the void chamber between .125 and 1.0 gpm. The system will allow the operator to electronically read any variance in the resultant liquid/pressure relationship in the void chamber on the readout at the operating station. Syustems that limit the testing capabilities to either air or water rather than both will not be considered equal.

ELECTRIC AIR COMPRESSOR

Use City's existing equipment.

JOINT TESTING AND SEALING PACKERS - SMALL DIAMETER PIPES

Joint testing and sealing packers shall be furnished that when inflated, create a void at the defective joint into which the chemical sealant or root kill solutions are injected. The packers shall be designed to have the smallest outside diameter to allow maximum clearance of pipe imperfections and obstructions while still allowing the packer, when inflated, to seat firmly at the defective joint. Each small diameter packer shall consist of two aluminum cylinders each fitted with an air inflatable rubber sleeve, an aluminum center casting and two aluminum end castings. When assembled, the cylinder/sleeve components are fitted into the machined center and end castings to form an air tight unit. Full length threaded bolts allow for fitting adjustments and complete disassembly for easy field maintenance, repair or replacement. The rubber sleeves are manufactured of a resilient material with a minimum thickness of 3/8 inch to resist abrasion, cuts and punctures. The center casting shall be fitted with the fluid supply lines and chemical exit port(s). The end castings shall incorporate a skid design to protect the inflatable elements from excessive wear of damage while being pulled through the pipe. This design will apply to packers manufactured for pipe sizes 6-8-10-12-15 inch. One packer is used for a specific pipe size to eliminate weakening of the rubber sleeves. The buyer shall identify the packer sizes required in the component list. The packer hose fittings will be stainless steel and of the quick connect/disconnect type. All packers will be designed to provide the maximum flow through backup while operating in the line. Packers using damage prone inner tube type rubber inflatable elements or with limited flow through capacity will not be deemed equal.

CHEMICAL HANDLING/SAFETY PACKAGE

The system shall be equipped with chemical handling and measuring equipment to be used with various gel type sealants available. These items will include two mixing paddles, a chemical scoop and a measuring cup. A chemical safety package will be supplied since all manufacturers of sewer line joint sealants have recommended safe handling procedures. The safety package will include goggles, gloves, respirator w/replacement cartridges and a chemical waste disposal kit.

CHEMICAL SEALANT

Sufficient chemical sealant materials shall be supplied for training purposes (if required) with the amounts identified in the component list. The sealant material shall be a gel type with viscosities ranging from 2 centipoise to 1200 centipoise. The gel will penetrate the soil outside the pipe joint and/or fill an open gasket area with the pipe joint to form a barrier between the groundwater and the pipe. Any residue shall be easily removed from the pipe joint. Open celled sealants that allow passage of groundwater will not be acceptable.

The buyer will determine the type of sealant desired based on his job requirements and the performance of the material.

CABLE AND HOSE MANHOLE GUIDE SYSTEM

The necessary pulley assemblies will be furnished to protect the TV cable, winch cable and hose from damage during operation in pipe sections. They shall be constructed of aluminum to minimize weight and equipped with corrosion resistant pulleys. The minimum bend radius of the pulley assembly shall be 6".

Quick lock extension poles will be supplied to connect to the pulley assemblies. The poles shall be constructed of 1" galvanized pipe with a specially designed quick lock assembly consisting of a compression spring and twist lock type connectors. The number of 5' long poles required for both the remote and local manhole set-ups will be shown on the component list. Manhole adapter hooks will be supplied to secure the extended pulley and pole assembly at the manhole ring. A manhole top roller assembly will be furnished to guide the cables and hoses into the manhole. The top roller shall consist of a welded steel angle iron frame with the necessary pulleys.

The complete downhole equipment assembly shall be designed for quick solid installation in various sizes of pipe and depths of manholes from above ground. Downhole equipment systems requiring manhole entry for installation shall not be acceptable.

TV/SEAL MAINTENANCE TOOL KIT

A kit containing sets of tools and expendable spare parts shall be furnished in a quality metal box. The kit shall contain the necessary items to field test, adjust and repair a number of components on the television/test/seal systems. This kit shall include items such as: volt OHM test meter (0-600 millamps) soldering kit, allen wrench set, cable repair tools, check valve test meter and adjustment tool and hose end fitting seals.

OPERATING MANUAL

Bound operating manuals shall be furnished that contain the recommended operating instructions and maintenance procedures for all systems and components being furnished. The instructions shall provide step-by-step use methods and include adequate illustrations, diagrams and other aids. Special attention shall be given to safety considerations for personnel and the equipment.

SYSTEMS PARTS BOOK

A parts book supporting field repair and replacement of the various components of the delivered systems will be furnished. This book will include exploded or cutaway drawings of numerous components and assemblies with each drawing referencing a manufacturer's part number and description.

OPERATING AND MAINTENANCE LOG BOOK

A hard bound log book will be furnished to record the results of the various pipeline operations. It will provide ample space to record pipeline information, defects, locations and accomplishments. A minimum of 50 log sheets will be furnished. An additional book will be furnished to keep a full record of use and maintenance on the equipment.

INSTRUCTION AND TESTING

The supplier shall fully instruct and test buyers employees in the operation of the equipment furnished after delivery. The instruction period shall be of sufficient duration (number of days shown on the component list) to fully familiarize the buyers operating personnel. The instruction and testing shall be conducted by the supplier's field service technician and shall include component familiarization, theory of operation, equipment operation, field procedures, techniques of use, troubleshooting, maintenance recording and logging of sewer conditions and safety procedures.

BID, OFFER OR PROPOSAL FOR SALE OR LEASE OF MATERIALS

(Defined at I.C. 36-1-2-9.5)
(Please type or print)

1. Governmental Unit: FORT WAYNE Date: MAY 1, 1990

2. County: _____

3. Bidder (Firm): CUES, INC.
Address: 3501 VINELAND ROAD

City/State: ORLANDO, FL 32811

4. Telephone Number: 1-800-327-7791

5. Agent of Bidder (if applicable): N/A

Pursuant to notices given, the undersigned offers bid(s) to FORT WAYNE (Governmental Unit) in accordance with the following attachment(s) which specify the class or item number or description, quantity, unit, unit price and total amount.

The contract will be awarded by classes or items, in accordance with specifications. Any changes or alterations in the items specified will render such bid void as to that class or item. Bidder promises that he has not offered nor received a less price than the price stated in his bid for the materials included in said bid. Bidder further agrees that he will not withdraw his bid from the office in which it is filed. A certified check or bond shall be filed with each bid if required, and liability for breach shall be enforceable upon the contract, the bond or certified check or both as the case may be.

Thomas E. Haas
Signature of Bidder or Agent

BID OFFER OR PROPOSAL

Attach separate sheet listing each item bid based on specifications published by governing body.
Following is an example of the bid format:

Class or Item	Quantity	Unit	Description	Unit Price	Amount

FLORIDA
STATE OF FLORIDA)
ORANGE COUNTY) SS:

NON-COLLUSION AFFIDAVIT

The undersigned bidder or agent, being duly sworn on oath, says that he has not, nor has any other member, representative, or agent of the firm, company, corporation or partnership represented by him, entered into any combination, collusion or agreement with any person relative to the price to be bid by anyone at such letting nor to prevent any person from bidding nor to induce anyone to refrain from bidding, and that this bid is made without reference to any other bid and without any agreement, understanding or combination with any other person in reference to such bidding.

He further says that no person or persons, firms, or corporations has, have or will receive directly or indirectly, any rebate, fee, gift, commission or thing of value on account of such sale.

CUES, INC.*Thomas E. Haas*
Signature of Bidder or Agent

Subscribed and sworn to before me this 1 day of MAY, 1990.
My Commission Expires: OCTOBER 13, 1992
County of Residence: ORANGE

Jeanette Fox
Notary Public
JEANETTE FOX
Notary Public Printed Name

ACCEPTANCE

There now being sufficient unobligated appropriated funds available, the contracting authority of (Governmental Unit) hereby accepts the terms of the attached bid for classes or items numbered _____ and promises to pay the undersigned bidder upon delivery the price quoted for the materials stipulated in said bid.

Contracting Authority Numbers:

Date: _____

Read the first time in full and on motion by Burns,
seconded by Dolan, and duly adopted, read the second time by
title and referred to the Committee on City Plan (and the
City Plan Commission for recommendation) and Public Hearing to be held after
due legal notice, at the Council Conference Room 128, City-County Building,
Fort Wayne, Indiana, on 12th, the 19 day
of July, at 10:00 o'clock A.M., E.S.T.

DATED: 6-26-90

Sandra E. Kennedy
SANDRA E. KENNEDY, CITY CLERK

Read the third time in full and on motion by Burns,
seconded by Dolan, and duly adopted, placed on its
passage. PASSED 10:00 by the following vote:

	AYES	NAYS	ABSTAINED	ABSENT
<u>TOTAL VOTES</u>	<u>7</u>			<u>2</u>
<u>BRADBURY</u>	<u>✓</u>			
<u>BURNS</u>	<u>✓</u>			
<u>EDMONDS</u>	<u>✓</u>			
<u>GiaQUINTA</u>				<u>✓</u>
<u>HENRY</u>				<u>✓</u>
<u>LONG</u>	<u>✓</u>			
<u>REDD</u>	<u>✓</u>			
<u>SCHMIDT</u>	<u>✓</u>			
<u>TALARICO</u>	<u>✓</u>			

DATED: 7-10-90

Sandra E. Kennedy
SANDRA E. KENNEDY, CITY CLERK

Passed and adopted by the Common Council of the City of Fort Wayne,
Indiana, as (ANNEXATION) (APPROPRIATION) (GENERAL)
(SPECIAL) (ZONING MAP) ORDINANCE RESOLUTION NO. J-170-90
on the 10th day of July, 1990,

Sandra E. Kennedy ATTEST
SANDRA E. KENNEDY, CITY CLERK

SEAL
Stanley S. Reed
PRESIDING OFFICER

Presented by me to the Mayor of the City of Fort Wayne, Indiana, on
the 12th day of July, 1990,
at the hour of 10:00 o'clock A.M., E.S.T.

Sandra E. Kennedy
SANDRA E. KENNEDY, CITY CLERK

Approved and signed by me this 12th day of July,
1990, at the hour of 2:00 o'clock P.M., E.S.T.

Paul Helmke
PAUL HELMKE, MAYOR

DIGEST SHEET

TITLE OF ORDINANCE: Special

DEPARTMENT REQUESTING ORDINANCE: Purchasing

SYNOPSIS OF ORDINANCE: An ordinance approving the award of Ref. No. 943 for retrofit multi-conductor black & white TV inspection system to single conductor color system for the WPC Maintenance Department. The cost reflects the lowest and most responsive of two (2) vendors.

S-88-06-49

EFFECT OF PASSAGE: Black & white system is 14 years old (most systems last 7 years). The van is in very good shape-just the system needs replaced at this time. Growing system and the ever present infiltration problem in the St. Joe Township lines.

EFFECT OF NON-PASSAGE: Inadequate preventive maintenance service to either the St Joe Township area or remainder of our system.

MONIES INVOLVED: Cues, Inc. \$99,900.00

PRICE AGREEMENT:

PURCHASE ORDER: Yes

SOURCE OF FUNDING: WPC Maint 514-533-B101-4441

PRIOR APPROVAL:
(IF APPLICABLE)

DATE:

BILL NO. S-90-06-49

REPORT OF THE COMMITTEE ON CITY UTILITIES

PAUL M. BURNS, CHAIRMAN
MARK E. GIAQUINTA, VICE CHAIRMAN
HENRY, LONG, TALARICO

WE, YOUR COMMITTEE ON CITY UTILITIES TO WHOM WAS
REFERRED AN (ORDINANCE) (RESOLUTION) APPROVING THE AWARDING
OF REFERENCE #943 BY THE CITY OF FORT WAYNE, INDIANA, BY AND
THROUGH ITS DEPARTMENT OF PURCHASING AND CUES, INC. FOR THE WATER
POLLUTION CONTROL MAINTENANCE DEPARTMENT

HAVE HAD SAID (ORDINANCE) (RESOLUTION) UNDER CONSIDERATION
AND BEG LEAVE TO REPORT BACK TO THE COMMON COUNCIL THAT SAID
(ORDINANCE) (RESOLUTION)

DO PASS

DO NOT PASS

ABSTAIN

NO REC

Paul M. Burns
Mark Long
Henry Talarico

DATED: 7-10-90

Sandra E. Kennedy
City Clerk